CLAIMS

We claim:

1. A method, comprising:

a) hybridizing an interfering RNA target to at least one nucleic acid that contains sequence not complementary to said interfering RNA target to generate a detection structure; and

b) detecting said detection structure.

2. The method of claim 1, wherein said interfering RNA target is an miRNA.

3. The method of claim 1, wherein said interfering RNA target is an siRNA.

4. The method of claim 3, wherein said siRNA is double stranded.

5. The method of claim 1, wherein said detection structure comprises an invasive cleavage structure.

6. The method of claim 2, wherein said detection structure comprises first and second oligonucleotides configured to form an invasive cleavage structure in combination with said miRNA.

7. The method of claim 2, wherein said detection structure comprises a first oligonucleotide configured to form an invasive cleavage structure in combination with said miRNA.

8. The method of claim 6, wherein said first oligonucleotide comprises a 5' portion and a 3' portion, wherein said 3' portion is configured to hybridize to said target sequence, and wherein said 5' portion is configured to not hybridize to said target sequence.

9. The method of claim 6, wherein said second oligonucleotide comprises a 5' portion and a 3' portion, wherein said 5' portion is configured to hybridize to said target sequence, and wherein said 3' portion is configured to not hybridize to said target sequence.

10. The method of claim 1, wherein said detecting comprises use of an invasive cleavage assay.

11. The method of claim 1, wherein said detection structure comprises a circular oligonucleotide hybridized to said miRNA to generate a circular detection structure.

12. The method of claim 11, wherein said detecting comprises use of a rolling circle replication assay.

13. The method of claim 1, wherein said detecting comprises use of a detection assay selected from the group consisting of sequencing assays, polymerase chain reaction assays, hybridization assays, hybridization assays employing a probe complementary to a mutation, microarray assays, bead array assays, primer extension assays, enzyme mismatch cleavage assays, branched hybridization assays, NASBA assays, molecular beacon assays, cycling probe assays, ligase chain reaction assays, invasive cleavage structure assays, ARMS assays, and sandwich hybridization assays.

14. The method of claim 1, wherein said detecting is carried out in cell lysates.

15. The method of claim 1, wherein a plurality of different miRNAs are detected.

16. The method of claim 15, wherein said plurality of miRNAs comprise a first miRNA and a second miRNA that is said first miRNA having a polymorphism.

17. The method of claim 1, further comprising detecting a second nucleic acid target.

18. The method of claim 17, wherein said second nucleic acid target is RNA.

19. The method of claim 18, wherein said second nucleic acid target is selected from the group consisting of U6 and GAPDH.

20. The method of claim 2, wherein said miRNA is selected from the group consisting of Let-7, miR-1, miR-135, miR-15, miR-16, miR125b, miR-1d, and miR124a.

21. A kit comprising a nucleic acid configured for forming a detection structure when hybridized to an interfering RNA target sequence, wherein the nucleic acid comprises sequence that is not complementary to said interfering RNA target sequence.

22. The kit of claim 21, wherein said detection structure comprises an invasive cleavage structure.

23. The kit of claim 22, wherein said first oligonucleotide comprises a 5' portion and a 3' portion, wherein said 3' portion is configured to hybridize to said target sequence, and wherein said 5' portion is configured to not hybridize to said target sequence.

24. The kit of claim 22, wherein said second oligonucleotide comprises a 5' portion and a 3' portion, wherein said 5' portion is configured to hybridize to said target sequence, and wherein said 3' portion is configured to not hybridize to said target sequence.

25. The kit of claim 21, wherein said detection structure comprises a circular oligonucleotide hybridized to said miRNA to generate a circular detection structure.

26. The kit of claim 25, wherein said detection structure is a detection structure for a rolling circle replication assay.

27. The kit of claim 21, wherein said interfering RNA target is an miRNA.

28. The kit of claim 21, wherein said interfering RNA target is an siRNA.

29. The kit of claim 27, wherein said miRNAs are selected from the group consisting of Let-7, miR-1, miR-135, miR-15, miR-16, miR-1b, miR-124a, and miR125b.

30. The kit of claim 21, wherein the kit is configured to detect an miRNA target and at least one other RNA target.

31. The kit of claim 21, wherein the kit is configured to detect said interfering RNA target sequence in a cell lysate.